



# *X-Plain™*

## *Epidural Anesthesia*

### **Reference Summary**

Many people have surgery requiring an anesthetic that numbs specific areas of the body.

Epidural anesthesia can be effective in certain types of operations such as leg or pelvic operations.

If your doctor recommends surgery with epidural anesthesia, the decision whether or not to have the procedure is also yours.

This reference summary will explain the benefits and risks of this anesthesia.

### **Anatomy**

The spine is formed of vertebrae, or small bones. The vertebrae are separated and cushioned by softer disks. This allows the spine to flex and bend.

Nerves pass from the body to the brain through the spine. They carry sensations, including the sensation of pain, to the brain. The nerves in the back are located in a bag of fluid called the ‘thecal sac.’

The aim of epidural anesthesia is to put medications around the bag of nerves to stop the sensation of pain. That space is called ‘epidural space.’ These medications will make you unable to move your legs. They will feel very numb.

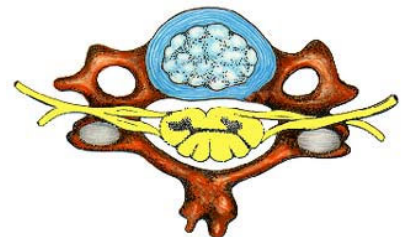
You will not be able to control your bladder and may have a catheter placed in the bladder to drain the urine.

Your feeling and movement will come back to normal as soon as the anesthetic wears off. This may take a few hours.

### **The Procedure**

To keep you from feeling pain during your surgery, your anesthesiologist will place medication around the nerves.

Initially, an IV is placed in your arm to deliver medications to help you relax and to treat possible changes in blood



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pressure.

Before the back injection, the skin is disinfected and numbed with local anesthesia so that you will not feel the pain of the epidural injection.

A minute or so later, the medication is injected with a longer needle directly around the nerves.

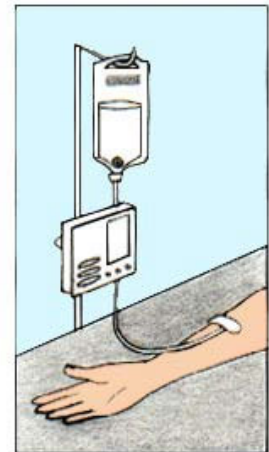
A catheter may be left around the nerves to give more anesthetic depending on the duration of the surgery and the preferences of the anesthesiologist. This is usually not painful, although it may be uncomfortable.

During this part of the procedure, you should let your doctor know if you have any pain, especially in the legs. Pain may mean the needle is touching a nerve.

You may also be given some medications through the IV to relax you, and possibly put you to sleep.

When the operation is done, if you were heavily sedated, you will be allowed to wake up. You are then taken to the recovery room where nurses will watch you until you are fully awake.

Throughout the operation, the anesthesiologist very closely monitors your heart rate and tracing, blood pressure, and oxygen concentration in the blood with the help of medical instruments called ‘monitors.’



## Risks and Complications

Because of significant advances in technology and medications, this type of anesthesia is extremely safe. There are however some possible risks and complications. YOU can do a lot to prevent them.

You should make your anesthesiologist aware of any medical problems that you may have such as heart or lung problems, strokes, or liver damage.

It is also very important to make your anesthesiologist and surgeon aware of any medications you are taking, even over-the-counter medications such as aspirin or Advil®.

Some of the medications you may be taking could interact with anesthesia medications or could cause you to bleed excessively during surgery.

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It also is extremely important to tell your doctors whether you have any allergies to drugs such as numbing medications or to foods, such as eggs.

This allows your doctors to stay away from medications that you may be allergic to.

Because rare reactions to anesthesia may run in families, it is extremely important to let your doctor know whether you or ANY member of your family have had any troubles with anesthesia in the past.

It is not uncommon to have some nausea and vomiting after surgery. This is usually easy to deal with using anti-nausea medications.

There is a very small risk of lung infections, strokes, heart attacks, and even death during or after anesthesia. These risks are very small but are more likely in older people and patients who have medical problems. Seizures, heart rhythm problems, and heart arrest are also very rare complications.

Blood clots in the legs may occur. This usually shows up a few days after surgery. They cause the leg to swell and hurt a lot.

These clots can get dislodged from the legs and go to the lungs where they will cause shortness of breath, chest pain, and possibly even death. Sometimes the shortness of breath can happen without warning.

It is therefore extremely important to let your doctors know if any of these symptoms occur.

Getting out of bed shortly after surgery may help decrease the risks of blood clots.

Because the body lies still during surgery, pressure points may develop if a part of the body gets too much pressure.

This can, rarely, result in nerve damage, paralysis, blindness, and ulcers of the skin, depending on the body position during surgery.

Precautions are taken to try to prevent any of those complications from happening.

Rarely, the site of your IV can become infected. This is usually not serious but may need to be treated with warm cloth applications or antibiotics.

Nerves could be injured during the surgery, but this is extremely rare.

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If the thecal sac (the bag of fluid where the nerves are) is entered, some patients may develop severe headaches. If this happens let your doctor know. You may have to lie flat for some time and drink lots of fluid.

If this does not help, some of your own blood may be used to stop the fluid leak. This very simple procedure is called a 'blood patch.'

In very rare cases infections may occur. Therefore, it is important to report to your doctor any worsening pain or fever.

Finally, the injection may cause internal bleeding, which puts pressure on the nerves. The chance of this happening is again extremely rare, but if you develop a significant new weakness or a bladder problem, you should tell your doctor.

Your anesthesiologist is prepared to treat reactions to medications used in the operating room. In spite of the best effort, in very rare instances these reactions could be fatal. It is therefore very, very important to inform your anesthesiologist of ALL your known allergies.

It is very rare for a patient to have persistent back pain from this procedure. If you have had any back troubles, you need to let your anesthesiologist know prior to proceeding with an epidural anesthesia.

Rarely the anesthesiologist may have to switch to general anesthesia. This includes putting a tube down the throat to aid in breathing. You will be asleep in case this happens, and the tube is usually taken out as soon as you are fully awake and able to breathe on your own.

In the case of the tube being placed in the throat, the throat may feel sore afterwards. While placing the tube in the throat, the mouth, the lips, the vocal cords, and even the teeth may be damaged. This is extremely rare.

If excessive bleeding occurs during surgery, the anesthesiologist in close consultation with the surgeon may decide to give you a blood transfusion. This is done only in very extreme conditions.

This blood is thoroughly tested for known communicable diseases such as hepatitis and AIDS. This blood is very safe, but infections with these known or other unknown diseases could still happen. If for religious or other reasons you are against blood transfusions even in life-threatening



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situations, make sure to tell your doctors prior to surgery.

Be sure to tell your anesthesiologist if there is any chance you may be pregnant. Special precautions may need to be taken during the operation.

## **Summary**

Epidural anesthesia is very safe. However, as you have learned there are some risks and possible complications.

As you have also learned, you have to let your doctors know in case of fever, signs of infection, shortness of breath, swelling in the legs, or any other new symptoms that you may have after your surgery.

Most of the complications can be prevented through good communication. Make sure to inform your doctors of all your medical conditions, medications, and allergies. Your family history as it relates to anesthesia is also VERY important.

Complications may happen. Knowing about them will help you and your doctor detect them early if they happen.